AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for providing concurrency control for a policy-based management system that controls resources in a distributed computing system, the method comprising:

receiving a request to perform an operation on a lockable resource from a controller in the distributed computing system, wherein the ~~lockable resource is a device, an appliance, a system, or a storage mechanism~~controller is associated with a policy;

wherein the controller sends the request in order to enforce a first policy for controlling resources in the distributed computing system;

determining whether the controller holds a lock on the lockable resource, wherein the lock can be controlled by different controllers, and wherein only one controller can hold a lock on a resource at a given time;

allowing the controller to execute the operation on the lockable resource if the controller holds the lock on the lockable resource;

allowing the controller to acquire the lock if the controller does not hold the lock on the lockable resource; and

allowing the controller to execute the operation on the lockable resource if the controller acquires the lock;

wherein the controller can hold locks on other policies and can thereby create a hierarchical locking structure between policies.

1   2. (Original) The method of claim 1, wherein the first policy is configured

2   to command resources in the distributed computing system to perform actions so

3   that the distributed computing system operates in accordance with a rule that is

4   enforced by the first policy, wherein the rule governs behavior of resources within

5   the distributed computing system.

1   3. (Original) The method of claim 1, further comprising throwing an

2   exception if the controller does not hold the lock on the lockable resource and if

3   the controller does not acquire the lock.

1   4. (Original) The method of claim 1, wherein the lock held on the lockable

2   resource expires after a pre-specified lease period, unless the lease is renewed

3   within the pre-specified lease period.

1   5. (Original) The method of claim 1, wherein the lockable resource

2   includes a resource within the distributed computing system.

1   6. (Original) The method of claim 1, wherein the lockable resource

2   includes a second policy for controlling resources in the distributed computing

3   system.

1   7. (Original) The method of claim 1, wherein the controller includes a

2   client in the distributed computing system.

1   8. (Original) The method of claim 1, wherein the controller includes the

2   first policy for controlling resources in the distributed computing system.

1   9. (Original) The method of claim 1, wherein the controller includes a

2 higher-level policy for controlling resources in the distributed computing system,

3 and wherein the lockable resource includes a lower-level policy for controlling

4 resources in the distributed computing system.

1   10. (Original) The method of claim 1, wherein allowing the controller to

2 acquire the lock includes allowing the controller to acquire the lock from a

3 resource that allocates locks to controllers.

1   11 (Canceled).

1   12. (Currently amended) A computer-readable storage medium storing

2 instructions that when executed by a computer cause the computer to perform a

3 method for providing concurrency control for a policy-based management system

4 that controls resources in a distributed computing system, the method comprising:

5   receiving a request to perform an operation on a lockable resource from a

6 controller in the distributed computing system, wherein the ~~lockable resource is a~~

7 ~~device, an appliance, a system, or a storage mechanism~~<u>controller is associated</u>

8 <u>with a policy</u>;

9   wherein the controller sends the request in order to enforce a first policy

10 for controlling resources in the distributed computing system;

11   determining whether the controller holds a lock on the lockable resource<u>,</u>

12 <u>wherein the lock can be controlled by different controllers, and wherein only one</u>

13 <u>controller can hold a lock on a resource at a given time</u>;

14   allowing the controller to execute the operation on the lockable resource if

15 the controller holds the lock on the lockable resource;

16   allowing the controller to acquire the lock if the controller does not hold

17 the lock on the lockable resource; and

18   allowing the controller to execute the operation on the lockable resource if

19 the controller acquires the lock;

20   <u>wherein the controller can hold locks on other policies and can thereby</u>

21 <u>create a hierarchical locking structure between policies.</u>

1   13. (Original) The computer-readable storage medium of claim 12,

2 wherein the first policy is configured to command resources in the distributed

3 computing system to perform actions so that the distributed computing system

4 operates in accordance with a rule that is enforced by the first policy, wherein the

5 rule governs behavior of resources within the distributed computing system.

1   14. (Original) The computer-readable storage medium of claim 12,

2 wherein the method further comprises throwing an exception if the controller does

3 not hold the lock on the lockable resource and if the controller does not acquire

4 the lock.

1   15. (Original) The computer-readable storage medium of claim 12,

2 wherein locks held by the controller expire after a pre-specified lease period,

3 unless the lease is renewed within the pre-specified lease period.

1   16. (Currently amended) An apparatus that provides concurrency control

2 within a policy-based management system that controls resources in a distributed

3 computing system, the apparatus comprising:

4   a receiving mechanism that receives a request to perform an operation on a

5 lockable resource from a controller in the distributed computing system, wherein

6 the ~~lockable resource is a device, an appliance, a system, or a storage~~

7 ~~mechanism~~<u>controller is associated with a policy</u>;

8   wherein the controller sends the request in order to enforce a first policy

9   for controlling resources in the distributed computing system;

10   a determining mechanism that determines whether the controller holds a

11   lock on the lockable resource, whrein the lock can be controlled by different

12   controllers. and wherein only one controller can hold a lock on a resource at a

13   given time;

14   an execution mechanism that is configured to,

15   allow the controller to acquire the lock if the controller

16   does not hold the lock on the lockable resource, and to

17   allow the controller to execute the operation on the lockable

18   resource if the controller holds the lock on the lockable resource;

19   wherein the controller can hold locks on other policies and can thereby

20   create a hierarchical locking structure between policies.

1   17. (Original) The apparatus of claim 16, wherein the first policy is

2   configured to command resources in the distributed computing system to perform

3   actions so that the distributed computing system operates in accordance with a

4   rule that is enforced by the first policy, wherein the rule governs behavior of

5   resources within the distributed computing system.

1   18. (Original) The apparatus of claim 16, wherein the execution

2   mechanism is configured to throw an exception if the controller does not hold the

3   lock on the lockable resource and if the controller does not acquire the lock.

1   19. (Original) The apparatus of claim 16, wherein the lock on the lockable

2   resource expires after a pre-specified lease period, unless the lease is renewed

3   within the pre-specified lease period.

1   20. (Original) The apparatus of claim 16, wherein the lockable resource

2   includes a resource within the distributed computing system.

1   21. (Original) The apparatus of claim 16, wherein the lockable resource

2   includes a second policy for controlling resources in the distributed computing

3   system.

1   22. (Original) The apparatus of claim 16, wherein the controller includes a

2   client in the distributed computing system.

1   23. (Original) The apparatus of claim 16, wherein the controller includes

2   the first policy for controlling resources in the distributed computing system.

1   24. (Original) The apparatus of claim 16, wherein the controller includes a

2   higher-level policy for controlling resources in the distributed computing system,

3   and wherein the lockable resource includes a lower-level policy for controlling

4   resources in the distributed computing system.

1   25. (Original) The apparatus of claim 16, wherein the execution

2   mechanism is configured to allow the controller to acquire the lock from a

3   resource that allocates locks to controllers.

1   26 (Canceled).

1   27. (Previously presented) The method of claim 1, wherein the lockable

2   resource presents one or more independent locks providing access to independent

3   sub-units of the resource..

1   28. (Previously presented) The apparatus of claim 16, wherein the lockable

2   resource presents one or more independent locks providing access to independent

3   sub-units of the resource.